

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P146879

Luminaire Tested: **LDRL-T4-E05-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146879
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T4-E05-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (105) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13419.9 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

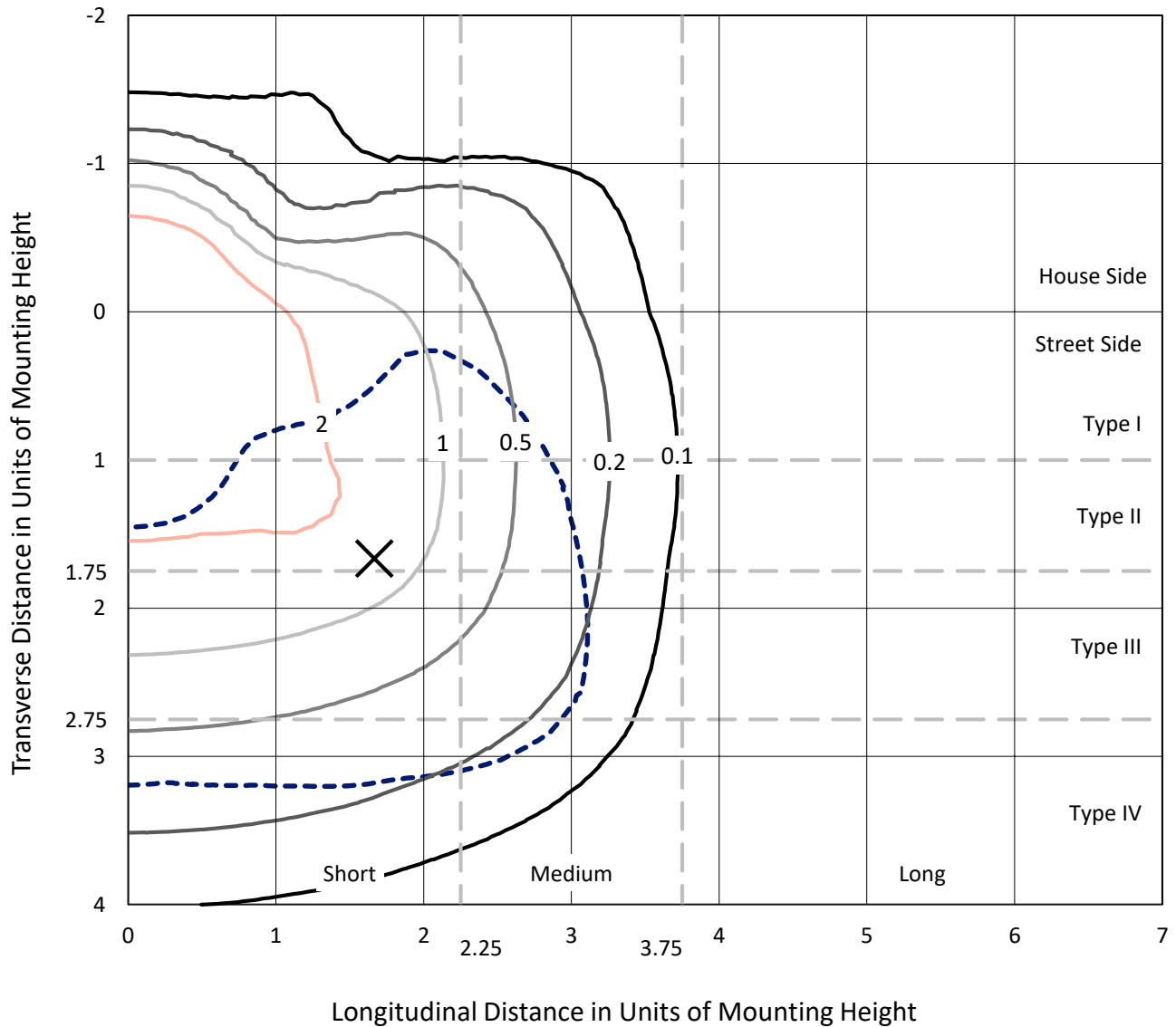
Input Watts (W): 127.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P146879
 CATALOG NUMBER: LDRL-T4-E05-E-7030

Iso-Footcandle Lines of Horizontal Illumination

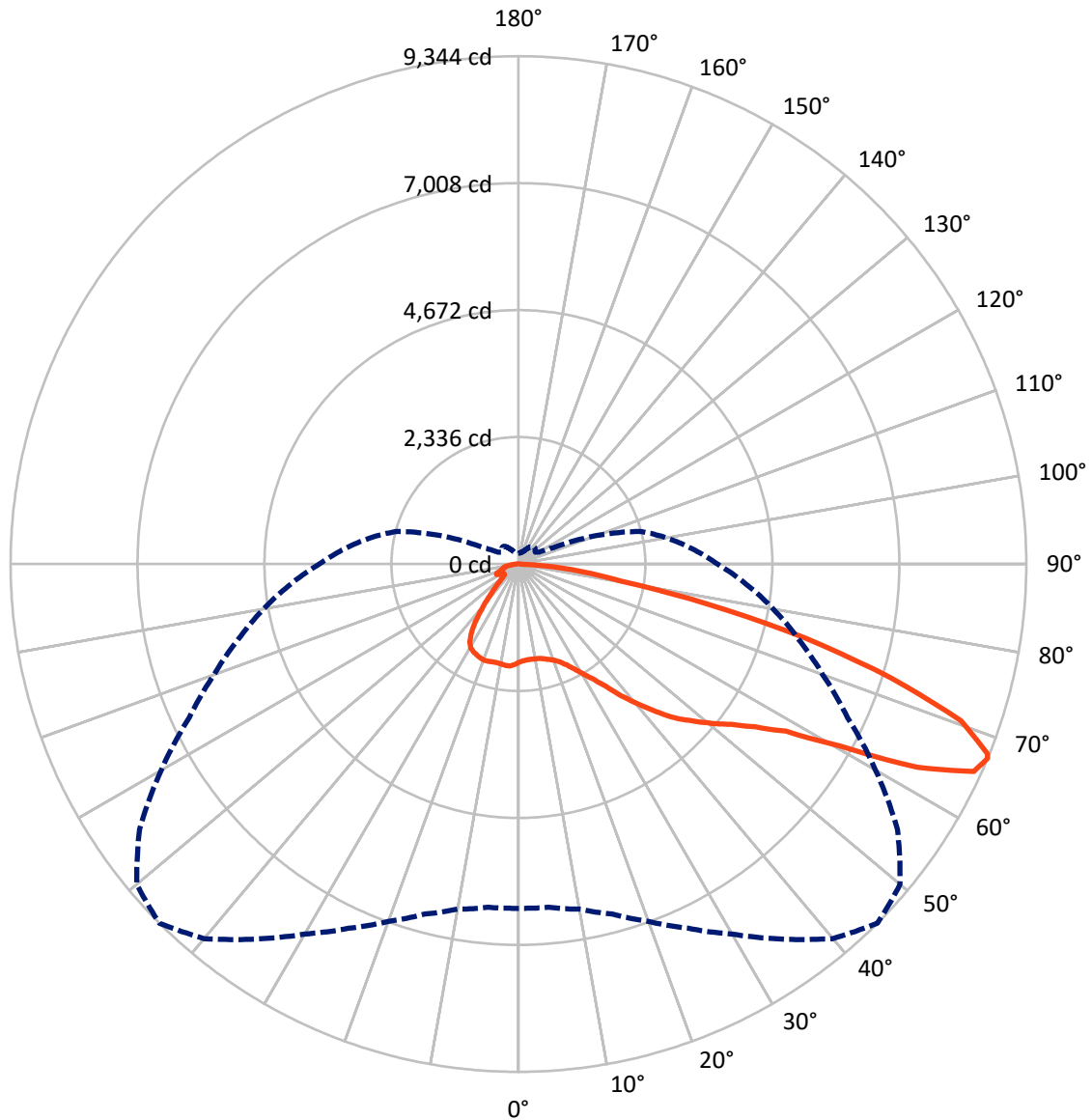
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146879
CATALOG NUMBER: LDRL-T4-E05-E-7030

Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

REPORT NUMBER: P146879

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2719.2	0.0	2719.2
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	10700.7	0.0	10700.7
	% Fixture	79.7	0.0	79.7
Total	Lumens	13419.9	0.0	13419.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.1	1.3
10°-20°	522.8	3.9
20°-30°	888.6	6.6
30°-40°	1335.5	10.0
40°-50°	1736.6	12.9
50°-60°	2384.2	17.8
60°-70°	3761.1	28.0
70°-80°	2272.6	16.9
80°-90°	344.3	2.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	13419.9	100.0
0°-180°	13419.9	100.0



REPORT NUMBER: P146879

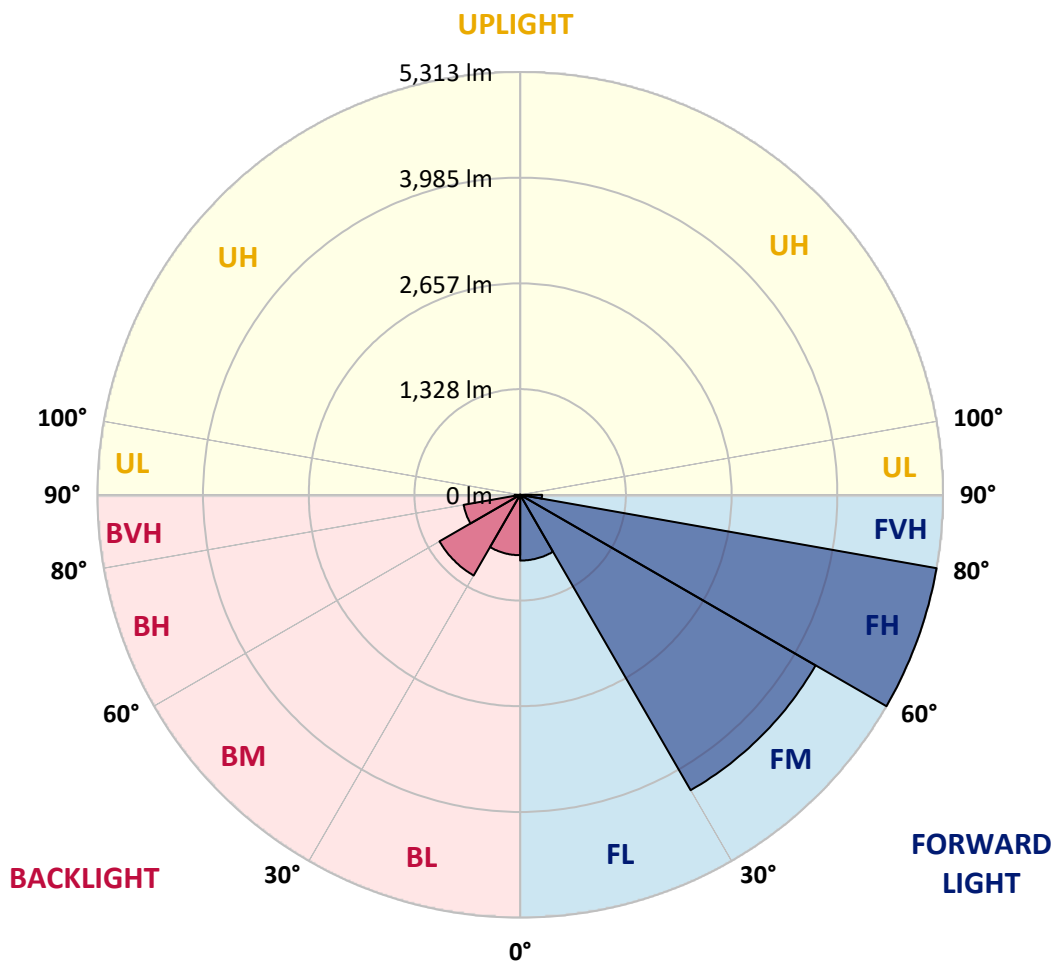
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	826.4	6.2			
FM	(30°-60°)	4286.2	31.9			
FH	(60°-80°)	5313.2	39.6			G3/7500
FVH	(80°-90°)	274.9	2.0			G3/500
BL	(0°-30°)	759.2	5.7	B2/1000		
BM	(30°-60°)	1170.1	8.7	B2/2500		
BH	(60°-80°)	720.5	5.4	B2/1000		G2/1000
BVH	(80°-90°)	69.4	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





REPORT NUMBER: P146879

CATALOG NUMBER: LDRL-T4-E05-E-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6
2.5°	1766.4	1770.1	1767.3	1767.3	1768.2	1769.2	1771.0	1774.6	1775.6	1781.0	1781.9
5°	1730.8	1731.7	1731.7	1732.6	1738.1	1742.7	1747.2	1753.6	1759.1	1769.2	1775.6
7.5°	1718.0	1721.7	1720.8	1722.6	1728.1	1732.6	1738.1	1747.2	1760.9	1769.2	1778.3
10°	1739.0	1741.8	1739.0	1739.9	1740.8	1745.4	1747.2	1753.6	1764.6	1771.9	1780.1
12.5°	1787.4	1787.4	1784.7	1782.9	1780.1	1781.0	1777.4	1776.5	1781.9	1782.9	1783.8
15°	1851.4	1858.7	1849.5	1842.2	1838.6	1834.9	1823.0	1818.5	1817.6	1809.3	1801.1
17.5°	1916.2	1918.0	1912.6	1904.3	1898.9	1890.6	1880.6	1871.5	1860.5	1847.7	1831.3
20°	1988.4	1989.3	1982.0	1970.1	1963.7	1953.7	1940.9	1925.3	1911.6	1891.5	1873.3
22.5°	2088.8	2087.9	2073.3	2063.3	2054.1	2042.3	2024.0	2003.0	1981.1	1957.3	1931.7
25°	2203.9	2203.9	2193.9	2177.4	2172.9	2155.5	2135.4	2110.8	2087.9	2054.1	2023.1
27.5°	2335.4	2336.4	2318.1	2308.9	2298.9	2280.6	2266.9	2247.8	2216.7	2182.9	2150.9
30°	2491.6	2487.1	2472.4	2453.3	2449.6	2435.0	2415.8	2402.1	2363.8	2340.0	2304.4
32.5°	2639.6	2646.9	2643.2	2621.3	2625.0	2610.4	2593.9	2583.9	2543.7	2520.8	2488.0
35°	2860.6	2867.0	2872.5	2864.3	2868.8	2860.6	2846.9	2820.4	2787.5	2757.4	2711.7
37.5°	3032.3	3038.7	3042.4	3062.5	3091.7	3120.0	3132.8	3119.1	3120.9	3075.3	3014.1
40°	3173.0	3188.5	3210.4	3248.8	3307.2	3361.1	3390.4	3413.2	3425.1	3382.1	3302.7
42.5°	3313.6	3330.1	3360.2	3421.4	3501.8	3579.4	3640.6	3710.9	3723.7	3712.8	3645.2
45°	3460.7	3479.9	3517.3	3586.7	3680.8	3782.2	3880.8	3980.4	4030.6	4038.8	3956.6
47.5°	3637.9	3665.3	3700.0	3778.5	3869.9	3984.0	4107.3	4235.2	4313.8	4313.8	4218.8
50°	3858.9	3890.0	3919.2	3997.7	4089.1	4206.9	4349.4	4491.9	4598.7	4605.1	4490.0
52.5°	4168.5	4173.1	4190.5	4262.6	4342.1	4473.6	4608.8	4774.1	4897.4	4902.9	4770.4
55°	4544.8	4544.8	4564.9	4625.2	4699.2	4807.9	4947.6	5131.2	5260.9	5289.2	5119.3
57.5°	5039.9	5058.1	5068.2	5138.5	5188.7	5303.8	5420.7	5620.8	5786.1	5804.3	5631.7
60°	5845.4	5810.7	5866.4	5928.6	6046.4	6130.4	6329.5	6530.5	6741.4	6791.7	6606.3
62.5°	6639.1	6676.6	6745.1	6857.4	7059.3	7247.4	7532.4	7837.5	8165.4	8232.9	8091.4
65°	6688.5	6711.3	6806.3	6999.9	7275.7	7610.9	8003.7	8463.1	8951.7	9204.7	8967.3
67°	6334.1	6340.5	6448.3	6668.4	6999.0	7396.3	7861.2	8422.0	8995.6	9343.6	9166.4
67.5°	6221.7	6233.6	6339.6	6564.2	6898.5	7305.0	7779.0	8355.3	8942.6	9306.1	9146.3
70°	5562.3	5562.3	5676.5	5903.0	6216.3	6612.7	7108.6	7690.4	8328.8	8634.8	8498.7
72.5°	4734.8	4704.7	4833.4	5005.2	5260.9	5607.1	6006.2	6465.6	6946.0	7168.9	7115.0
75°	3441.5	3498.1	3564.8	3691.8	3913.7	4186.8	4420.6	4830.7	5207.9	5454.5	5389.7
77.5°	1877.8	1899.8	2084.3	2160.1	2354.6	2557.4	2814.0	3101.7	3398.6	3553.8	3490.8
80°	1116.1	1159.0	1268.6	1359.1	1464.1	1618.5	1804.8	1867.8	1926.3	1922.6	1808.4
82.5°	705.1	757.2	875.9	953.5	1008.3	1097.8	1199.2	1278.7	1296.0	1210.2	1077.8
85°	114.2	189.1	494.1	580.9	615.6	664.0	738.9	772.7	721.5	630.2	653.0
87.5°	44.8	53.9	150.7	190.9	201.9	105.9	183.6	215.6	109.6	55.7	126.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P146879

CATALOG NUMBER: LDRL-T4-E05-E-7030

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6
2.5°	1787.4	1792.0	1796.6	1802.0	1803.9	1808.4	1816.7	1815.7	1822.1	1824.9	1829.4
5°	1783.8	1793.8	1801.1	1811.2	1814.8	1824.9	1835.8	1839.5	1847.7	1854.1	1859.6
7.5°	1791.1	1802.0	1811.2	1823.0	1831.3	1839.5	1847.7	1857.8	1865.1	1869.6	1873.3
10°	1793.8	1805.7	1816.7	1826.7	1835.8	1842.2	1851.4	1859.6	1866.9	1869.6	1870.5
12.5°	1794.7	1803.0	1813.9	1824.9	1833.1	1841.3	1847.7	1856.8	1862.3	1863.2	1861.4
15°	1802.0	1803.0	1810.3	1823.0	1831.3	1839.5	1844.1	1848.6	1852.3	1849.5	1846.8
17.5°	1824.0	1817.6	1817.6	1824.0	1828.5	1832.2	1833.1	1832.2	1828.5	1823.0	1818.5
20°	1859.6	1846.8	1836.7	1833.1	1825.8	1816.7	1804.8	1793.8	1780.1	1773.7	1772.8
22.5°	1915.3	1896.1	1877.8	1859.6	1835.8	1809.3	1781.9	1758.2	1739.0	1729.0	1729.9
25°	2010.3	1982.0	1961.0	1929.0	1890.6	1853.2	1817.6	1785.6	1762.8	1744.5	1748.2
27.5°	2138.2	2106.2	2087.9	2051.4	2007.5	1960.0	1918.0	1874.2	1841.3	1818.5	1823.0
30°	2287.9	2278.8	2248.7	2212.1	2171.0	2117.1	2054.1	1988.4	1929.0	1891.5	1884.2
32.5°	2468.8	2458.7	2425.9	2394.8	2341.8	2282.5	2200.3	2096.1	2003.0	1931.7	1900.7
35°	2691.6	2667.0	2626.8	2596.7	2537.3	2460.6	2354.6	2214.0	2072.4	1965.5	1887.9
37.5°	2969.3	2908.1	2841.4	2762.9	2675.2	2582.0	2459.7	2295.2	2119.9	1968.3	1830.4
40°	3234.2	3135.5	3025.0	2900.8	2793.9	2681.6	2554.6	2366.5	2151.9	1949.1	1743.6
42.5°	3529.2	3375.7	3226.0	3055.2	2914.5	2781.2	2635.9	2416.7	2158.2	1897.0	1631.2
45°	3813.2	3616.0	3415.0	3204.0	3025.0	2877.1	2711.7	2459.7	2156.4	1842.2	1519.8
47.5°	4066.2	3830.6	3582.2	3344.7	3136.4	2973.9	2793.0	2518.1	2181.1	1826.7	1445.8
50°	4302.8	4030.6	3739.3	3475.3	3248.8	3082.6	2896.2	2610.4	2256.9	1862.3	1434.9
52.5°	4546.7	4250.7	3917.4	3633.3	3396.7	3204.0	3015.9	2728.2	2362.8	1935.4	1459.5
55°	4864.5	4524.7	4169.4	3854.3	3583.1	3375.7	3158.4	2870.7	2477.0	2020.3	1506.1
57.5°	5337.6	4940.3	4536.6	4197.8	3884.5	3626.0	3387.6	3057.9	2666.1	2148.2	1608.4
60°	6187.0	5746.8	5279.2	4836.2	4475.4	4173.1	3869.9	3460.7	3015.0	2438.6	1843.1
62.5°	7574.4	6965.2	6318.6	5735.8	5239.9	4830.7	4403.3	3911.9	3392.2	2791.2	2198.4
65°	8408.3	7568.0	6745.1	6069.2	5482.8	4958.6	4441.6	3913.7	3410.5	2885.3	2358.3
67°	8511.5	7589.9	6679.3	5959.6	5331.2	4760.4	4199.6	3659.8	3209.5	2769.3	2314.4
67.5°	8480.5	7546.1	6617.2	5890.2	5255.4	4702.8	4151.2	3598.6	3160.2	2720.0	2281.5
70°	7868.5	6954.2	6035.4	5328.5	4720.2	4154.8	3633.3	3079.8	2741.0	2425.9	2046.8
72.5°	6530.5	5817.1	5047.2	4458.1	3932.9	3443.3	2984.8	2521.8	2249.6	2026.7	1760.0
75°	4842.6	4188.6	3537.4	3183.0	2775.7	2383.8	2029.5	1687.0	1581.9	1528.9	1371.9
77.5°	2990.3	2403.0	1912.6	1592.0	1265.9	991.9	789.1	642.1	669.5	779.1	829.3
80°	1488.8	1099.7	851.2	676.8	547.1	442.1	324.2	237.5	284.1	337.0	381.8
82.5°	896.0	707.8	559.9	474.0	385.4	297.8	211.0	160.7	178.1	239.3	263.0
85°	556.2	445.7	356.2	297.8	246.6	182.7	119.6	118.7	126.0	158.9	181.8
87.5°	163.5	110.5	87.7	91.3	101.4	84.0	63.0	53.9	66.7	91.3	102.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6	1806.6
2.5°	1830.4	1836.7	1839.5	1840.4	1841.3	1846.8	1846.8	1852.3	1854.1	1854.1	1855.9
5°	1865.1	1871.5	1874.2	1875.1	1876.9	1879.7	1878.8	1882.4	1884.2	1883.3	1883.3
7.5°	1877.8	1879.7	1879.7	1882.4	1885.2	1882.4	1880.6	1882.4	1881.5	1882.4	1882.4
10°	1873.3	1871.5	1871.5	1869.6	1872.4	1866.9	1866.9	1868.7	1867.8	1869.6	1872.4
12.5°	1862.3	1861.4	1858.7	1857.8	1861.4	1857.8	1858.7	1861.4	1863.2	1866.9	1871.5
15°	1846.8	1844.1	1844.1	1847.7	1856.8	1859.6	1863.2	1867.8	1868.7	1870.5	1872.4
17.5°	1820.3	1824.9	1835.8	1848.6	1866.0	1872.4	1874.2	1871.5	1862.3	1855.0	1847.7
20°	1783.8	1803.9	1832.2	1859.6	1880.6	1879.7	1867.8	1850.4	1828.5	1813.0	1803.0
22.5°	1752.7	1792.0	1835.8	1868.7	1882.4	1865.1	1837.7	1811.2	1785.6	1762.8	1742.7
25°	1774.6	1812.1	1849.5	1869.6	1868.7	1838.6	1802.0	1772.8	1738.1	1706.1	1672.3
27.5°	1845.9	1868.7	1879.7	1873.3	1854.1	1813.9	1773.7	1732.6	1687.9	1649.5	1610.2
30°	1894.3	1894.3	1883.3	1857.8	1824.0	1779.2	1729.9	1676.9	1623.9	1579.2	1534.4
32.5°	1878.8	1843.1	1811.2	1776.5	1738.1	1689.7	1633.1	1575.5	1515.2	1463.2	1424.8
35°	1811.2	1734.5	1667.8	1618.5	1578.3	1520.7	1455.0	1389.2	1339.9	1304.3	1282.3
37.5°	1690.6	1568.2	1471.4	1411.1	1349.0	1289.7	1213.8	1183.7	1139.9	1117.9	1109.7
40°	1544.5	1365.5	1244.0	1166.3	1100.6	1026.6	975.5	956.3	939.8	935.3	931.6
42.5°	1376.4	1152.6	1008.3	928.0	848.5	794.6	771.8	759.9	757.2	757.2	761.7
45°	1202.0	936.2	770.0	705.1	639.3	611.0	605.6	600.1	601.0	598.2	600.1
47.5°	1066.8	751.7	580.9	521.5	487.7	478.6	472.2	470.4	470.4	465.8	460.3
50°	996.5	628.4	455.8	409.2	390.0	383.6	383.6	380.0	372.6	368.1	356.2
52.5°	978.2	564.5	394.6	354.4	337.9	332.5	327.0	321.5	310.5	300.5	286.8
55°	992.8	544.4	375.4	337.9	319.7	313.3	308.7	299.6	284.1	269.4	253.9
57.5°	1054.0	557.1	382.7	342.5	326.1	321.5	316.9	303.2	284.1	263.0	245.7
60°	1221.1	617.4	413.7	367.2	353.5	354.4	348.0	330.6	303.2	273.1	247.5
62.5°	1436.7	701.5	453.9	401.9	400.0	409.2	409.2	379.0	334.3	288.6	253.9
65°	1560.0	727.9	459.4	406.4	422.0	448.5	446.6	406.4	345.2	288.6	251.2
67°	1528.9	699.6	436.6	380.0	398.2	428.4	424.7	386.3	328.8	276.7	243.9
67.5°	1504.3	690.5	431.1	373.6	391.8	416.5	416.5	378.1	321.5	273.1	241.1
70°	1324.4	610.1	403.7	348.9	348.9	355.3	350.7	323.3	285.0	251.2	230.2
72.5°	1104.2	533.4	381.8	331.5	314.2	310.5	304.1	285.0	260.3	236.6	218.3
75°	855.8	472.2	364.4	313.3	290.4	282.2	275.8	261.2	242.0	221.9	206.4
77.5°	599.2	404.6	341.6	297.8	273.1	266.7	256.7	240.2	224.7	207.3	192.7
80°	371.7	334.3	297.8	268.5	243.0	233.8	221.0	206.4	193.6	183.6	172.6
82.5°	264.9	245.7	221.9	206.4	179.9	152.5	163.5	164.4	156.2	149.8	147.0
85°	177.2	159.8	148.0	134.3	118.7	106.9	109.6	117.8	118.7	116.0	116.0
87.5°	96.8	82.2	79.5	82.2	71.2	67.6	68.5	75.8	76.7	76.7	77.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P146879

CATALOG NUMBER: LDRL-T4-E05-E-7030

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1806.6	1806.6	1806.6	1806.6
2.5°	1856.8	1859.6	1858.7	1860.5
5°	1885.2	1887.0	1886.1	1887.0
7.5°	1880.6	1884.2	1886.1	1883.3
10°	1873.3	1878.8	1882.4	1882.4
12.5°	1875.1	1884.2	1889.7	1889.7
15°	1873.3	1880.6	1882.4	1882.4
17.5°	1845.0	1845.0	1845.9	1842.2
20°	1795.6	1790.2	1788.3	1781.9
22.5°	1725.3	1712.5	1704.3	1699.7
25°	1644.9	1624.9	1612.1	1604.8
27.5°	1578.3	1560.9	1548.1	1540.8
30°	1504.3	1484.2	1476.9	1471.4
32.5°	1397.4	1378.2	1372.8	1368.2
35°	1258.6	1252.2	1237.6	1227.5
37.5°	1097.8	1089.6	1084.1	1080.5
40°	929.8	930.7	926.1	917.9
42.5°	761.7	770.9	761.7	759.9
45°	598.2	608.3	608.3	611.0
47.5°	461.2	459.4	463.1	464.0
50°	348.9	343.4	341.6	338.9
52.5°	276.7	270.4	266.7	262.1
55°	243.9	236.6	232.9	232.0
57.5°	232.9	223.8	218.3	217.4
60°	230.2	217.4	210.1	208.2
62.5°	230.2	214.6	206.4	203.7
65°	227.4	211.9	204.6	201.9
67°	223.8	210.1	202.8	200.9
67.5°	221.9	209.2	202.8	200.0
70°	217.4	206.4	199.1	196.4
72.5°	207.3	198.2	190.9	189.1
75°	196.4	188.2	183.6	181.8
77.5°	183.6	176.3	170.8	166.2
80°	164.4	156.2	148.0	146.1
82.5°	139.7	130.6	124.2	123.3
85°	112.3	105.0	97.7	97.7
87.5°	78.5	74.0	69.4	64.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)